

The Commonwealth of Massachusetts and 21st Century Skills

Moving Massachusetts Toward World Class Education

"I ask you to see what I see about what's possible here in the Commonwealth and indeed essential to be ready for our future. And I ask each of you to join with me in working to make that vision real. A decade of hard work, focus, discipline and accountability. A decade of "no excuses" leadership, starting with me. A decade to get ready – so that we can master and shape our own future."

Governor Deval Patrick
Commencement Address, UMass Boston
June 2007

The public education system that is able to convey to every student a solid combination of academic content and skills and competencies necessary to thrive in a world economy and a global society will be the education system that leads not only the nation but leads the world. From its current national leadership position, the Commonwealth of Massachusetts is well-poised to be that system.

Students in our state consistently outperform their peers on national tests such as the National Assessment of Education Progress (NAEP). In fact, Massachusetts students ranked first among all states on three of the four 2007 NAEP tests, and tied for first on the fourth test. This is only the second time that any state has ranked first on all four exams in one year, which happened last in 2005 when Massachusetts did it for the first time.

Equally true, however, is the fact that while recent NAEP results show that Massachusetts

"In a rapidly changing world, it is critically important that students be adaptable, lifelong learners who know how to access and apply resources to whatever task or obstacle they face."

Massachusetts Business Alliance for Education

Preparing for the Future:

Employer Perspectives on Work Readiness Skills

October 2006

students dominate overall, there is cause for concern. The score gains made by Massachusetts' students in 2007 were not observed for all racial/ethnic groups. For example, while the average scaled scores of white students improved in reading at grade 4 and mathematics at grades 4 and 8, the scores for Hispanic students were flat at grade 8, and the scores for African

American students were flat on all four tests.¹

The same disturbing achievement gap appears within Massachusetts as underscored by the recent 2007 MCAS scores released by the state. Statewide results showed an increase in the percentage of students of all ethnicities who earned their competency determination on their first try, but an achievement gap was still evident: 91 percent of White students passed both exams on their first try, as did 90 percent of Asian students compared to only 73 percent of Black students, and 67 percent of Hispanic students.²

¹ National Assessment of Educational Progress (NAEP) 2007 State Results
<http://nces.ed.gov/nationsreportcard/states/profile.asp>

² Massachusetts Department of Education 2007 Massachusetts Comprehensive Assessment System (MCAS) State Results:
<http://www.doe.mass.edu/mcas/results.html>

In addition, while the 2006 state's overall high school graduation rate of 80 percent surpassed the national average, minority students lagged behind the state average. Only 64 percent of African Americans, 57 percent of Hispanics, and 55 percent of students with limited English proficiency in the same cohort graduated.³

Moreover, when comparing U.S. student academic performance to the academic performance of their peers overseas, the results are troubling. According to data from the Organization for Economic Co-operation and Development (OECD), only 39 percent of those aged 24 to 35 in the United States had obtained a bachelor's degree in 2001. This put the United States just behind South Korea (40 percent) but well below Canada (51 percent), Ireland (48 percent) and Japan (48 percent) among OECD countries.⁴

Whereas for most of the 20th century the United States could take pride in having the best-educated workforce in the world, that is no longer true. Over the past 30 years, one country after another has surpassed us in the proportion of their entering workforce with the equivalent of a high school diploma, and many more are on the verge of doing so. Thirty years ago, the United States could lay claim to having 30 percent of the world's population of college students. Today that proportion has fallen to 14 percent and is continuing to fall.⁵

The truth is, no matter how well we are doing today, the data is clear – we are not doing enough. Even those students who pass the MCAS and graduate from high school are not ready. They are not ready for the coursework required in higher education and they are not ready to succeed in the work place.

Today, more students than ever before must take remedial math and English courses to acquire the skills and knowledge they ought to have as they enter their freshman year. Meanwhile, business leaders throughout the Commonwealth report that high school graduates do not possess the oral, written and presentation skills, basic math and technical skills or execution skills required to be productive employees.⁶ Moreover, business leaders report that those entering the work force must be better prepared in terms of work ethic and conduct and deportment in the work place.⁷

Educational Attainment and Prospects for the Future

- In 2004, U.S. high school drop outs ages 39-46 years old had a mortality rate over twice that of high school graduates and three times that of those with post-graduate schooling.
- The institutionalization rate of male dropouts was two times as high as that of high school graduates, nearly four times that of men with some college experience, and 18 times higher than that of adult males with a Bachelor's or higher degree.
- Young adults with strong reading/math skills (top quintile) and a Bachelor's degree were five to six times more likely to vote than dropouts with very limited reading/math skills

Center for Labor Market Studies
Northeastern University, Boston

³ Massachusetts Department of Education Cohort 2006 Graduation Rates- State Results, www.doe.mass.edu/infoservices/reports/gradrates/06state.html

⁴ Organisation for Economic Co-Operation and Development (OECD), *OECD in Figures 2001 Edition: Statistics on the Member Countries*

⁵ National Center on Education and the Economy, *Tough Choices or Tough Times: The Report of the New Commission on the Skills of the American Workforce*

⁶ Massachusetts Business Alliance for Education, *Preparing for the Future: Employer Perspectives on Work Readiness Skills*, October 2006.

⁷ Ibid.

And if our students are not ready, then no matter how well our state measures against others, the Commonwealth is not ready.

**Educational Attainment
Economic Prospects**

- The mean annual earnings of high school drop outs were 35% below those of high school graduates and nearly 70% below those of their peers with a Bachelor's degree.
- The mean lifetime earning of a high school graduate in the Commonwealth exceeds the mean lifetime earning of a high school drop out by nearly a half million dollars.
- High school graduates with no post-secondary schooling paid \$1.64 in taxes for every dollar of transfers that they received. This ratio rose to 3.28 for those with 1-3 years of college, to 12.85 for those with a Bachelor's degree, and to 24.29 for those with an advanced degree.

Center for Labor Market Studies
Northeastern University, Boston

There is no doubt that educational success and the lifelong economic, social and civic prospects for individuals are inextricably linked. Education is about opportunity. It's about opening doors to the potential that lives in all of us.

In a recent analysis of the effects on Massachusetts residents that drop out of high school (more than 11,000 each year), the Center for Labor and Market Studies at Northeastern University not only found a correlation between one's level of educational attainment and lifelong economic prospects, but also a correlation between educational attainment and health, life expectancy and civic engagement. Moreover, the analysis also showed that it is not only the prospects of individuals that are limited by education level, but also the prospects of communities and the Commonwealth.⁸

In a changing world with competition and opportunity increasing in every sector and on every continent, this is not the time to rest easy or to back away from a challenge. The Commonwealth has work yet to do.

Our common goal must be to build on the state's existing strong foundation to move education – no matter where it occurs – into a new era of excellence.

⁸ Center for Labor Market Studies, Northeastern University, Boston, Massachusetts. *An Assessment of the Labor Market, Income, Health, Social, Civic and Fiscal Consequences of Dropping Out of High School: Findings for Massachusetts Adults in the 21st Century.*

The Vision

Governor Patrick has challenged the people of the Commonwealth to think for the long-term and to approach education for the 21st century in a whole new way. He has called upon

“This comprehensive, long-term, strategic planning initiative is a bold move by a bold leader who recognizes that continuous improvement in education – even from a position of relative strength – is fundamental.”

Dana Mohler-Faria

President, Bridgewater State College
and Education Advisor to Governor Patrick

education, academic, business and political leaders to collaboratively evaluate the fundamental assumptions upon which our education system is built. And today, an unprecedented coalition of thought leaders and practitioners, brought together by the Governor’s **Commonwealth Readiness Project**, are working together to develop a 10-year

strategic plan for the future of education in Massachusetts.

The vision calls for a comprehensive, student-centered education system that begins before kindergarten, continues through grade 12 and higher education, and extends to work force development and lifelong learning to ensure that each individual has the opportunity to achieve his or her full potential at every level.

In this new era of education in the Commonwealth, cooperation and collaboration will drive a state-wide effort to:

- Provide every child with the opportunity to **enter public school ready to learn.**
- Provide every student with **outstanding and highly qualified teachers** who are respected professionals recruited from among the best and the brightest in the Commonwealth.
- Provide **every student with the support necessary** to meet the state’s high standards and high expectations.
- Provide the support and infrastructure needed to ensure the opportunity for every student to have an **accessible, affordable and globally competitive higher education.**
- Provide an education system that enables every student to **transition successfully** from high school to higher education, to the work force ready to succeed and to be a productive, engaged and contributing citizen.

Working together, public schools, higher education institutions, private and community partners will not only enable our state to be globally competitive, they will help define the necessary pathways for the youth of the state to prepare for life, work, and citizenship in the 21st century.

The Challenge

While the United States will graduate 70,000 engineers this year, India is graduating 350,000 engineers and China an astounding 600,000.⁹ Right here in Massachusetts, there are 92,640 vacancies – jobs that go unfilled because the people who need work don't have the skills to do the jobs that are available. And while it's true that 35,203 of those unfilled Massachusetts jobs require an associate's degree or higher, many do not.¹⁰

In the Commonwealth and across the country, educators – from teachers in classrooms and providers of expanded learning time programs to workforce development providers and employee trainers – face a dual challenge. Not only do students of every age need strong education in core academic subjects, particularly math and science, but they also need to master a range of non-academic skills including leadership and responsibility; and information, communication and technology literacy. Furthermore, mastery of academic subjects and non-academic skills must be interwoven with interdisciplinary themes such as global awareness and civic literacy to provide students with the necessary knowledge to compete in a global workforce.

Effective 21st century citizens must be creative and innovative individuals, well versed in critical thinking and problem solving and who have the knowledge and ability to synthesize information and ideas as well as communicate with diverse groups across cultures. It is this combination of content and skills mastery that will provide the best opportunity for people to, at a minimum, earn a wage that can support a family and at best, to thrive in the global economy, and to fully participate in a global society.

21st Century Skills

Core Subjects

English/Language Arts, Foreign Languages, Mathematics
Science, Geography
History, Civics/Government
Economics, Arts

21st Century Themes

Global Awareness
Financial/Economic/Business & Entrepreneurship Literacy
Civic Literacy
Health Literacy

Learning & Innovation Skills

Creativity & Innovation
Critical thinking & Problem Solving
Communication & Collaboration

Information, Media & Technology Skills

Information literacy
Media Literacy
Information, Communication and Technology Literacy

Life & Career Skills

Flexibility & Adaptability
Initiative, Self-Direction
Social & Cross-Cultural Skills
Productivity & Accountability
Leadership & Responsibility

The Partnership for 21st Century Skills

www.21stcenturyskills.org

⁹ National Center on Education and the Economy, *Tough Choices or Tough Times: The Report of the New Commission on the Skills of the American Workforce*

¹⁰ Massachusetts Executive Office of Labor and Workforce Development: *The Job Vacancy Survey Q4, 2006*
<http://lmi2.detma.org/Lmi/pdf/JobVac2006Q4.pdf> and data collected by the Division of Unemployment Assistance
http://lmi2.detma.org/Lmi/lmi_lur_b.asp?A=01&GA=000025&TF=2&Y=&Sopt=1&Dopt=TEXT

Integrating 21st Century Skills into Teaching and Learning: The Massachusetts Approach

Through Governor Deval Patrick's leadership, Massachusetts was accepted as a Leadership State in a national network of states working to infuse 21st century skills into education. The organization, the Partnership for 21st Century Skills, brings together the business community, education leaders, and policymakers to define a powerful vision for 21st century education to ensure every child's success as citizens and workers in the 21st century. The Partnership encourages schools, districts and states to advocate for the infusion of 21st century skills into education and provides tools and resources to help facilitate and drive change.

In addition to Massachusetts, member states include Maine, North Carolina, South Dakota, West Virginia and Wisconsin. Each state is working to develop and implement

The Public's Perception:

21st Century Skills in Teaching and Learning

- In a recent nationwide poll, eighty percent of voters across America said the things that students need to learn in school today are different than they were 20 years ago.
- Three-quarters of voters want there to be at least equal emphasis on 21st century skills in American schools.
- Nine out of ten voters agree that these skills need to be incorporated into the classroom.
- In fact, there is near universal agreement (99 percent) that these skills are critical to future economic success.

**National Poll for
Partnership for 21st Century Skills
Public Opinion Strategies/Peter D. Hart Research
September 10-12, 2007**

tailored action plans developed by leaders within their respective states. The Partnership is providing advice, resources, and most importantly a critical communications link from policy makers and thought leaders in each state to their counterparts in the other states.

Here in the Commonwealth, the Office of the Governor's Advisor for Education has brought together a broad based coalition of representatives from the business community, the education community and other government offices and agencies to begin working together to:

1) promote the importance of 21st

Century Skills in teaching and learning wherever it occurs; and 2) to provide advice and counsel as the recommendations of the Commonwealth Readiness Project are developed and implemented.

The Advisory Group, an ad hoc coalition, agrees that the following the seven strategies identified by the Partnership for 21st Century Skills are essential in the Commonwealth

- 1) High- Profile Leadership**
- 2) Broad Consensus and a Shared Vision**
- 3) Ongoing Professional Development in 21st Century Skills**
- 4) Standards and Curriculum Aligned with 21st Century Skills**
- 5) 21st Century Assessments**
- 6) An Effective Communications Strategy**
- 7) An Aggressive Implementation Strategy**

Following the completion of the Commonwealth Readiness Project, the Advisory Group will reconvene to develop a plan to help support and implement the Readiness Project's recommendations.

For more information about the Massachusetts 21st Century Skills Initiative or more importantly, to get involved, please contact Michele Norman, Director of Policy, Office of Governor Patrick's Education Advisor (michele.norman@state.ma.us).

Members of the **Partnership for 21st Century Skills** include Adobe Systems, Inc.; Apple; AT&T; Blackboard, Inc.; Cable in the Classroom; Cisco Systems; Corporation for Public Broadcasting; Davis Publications; Dell, Inc.; Discovery Education; EF Education; Education; Networks of America; Education Testing Service; Ford Motor Company Fund; Intel Foundation; JA Worldwide; LeapFrog SchoolHouse; McGraw-Hill Education; Microsoft Corporation; National Education Association; Oracle Education Foundation; Pearson Education; PolyVision; SAP; SAS Institute; Texas Instruments; THINKronize; Thomson Gale; and Verizon.

Members of the **Massachusetts 21st Century Skills Initiative Advisory Group** include: **Senator Bob Antonioni**, Senate Chair, Joint Committee on Education; **Senator Ed Augustus**, Senate Vice Chair, Joint Committee on Education; **Kate Berseth**, Vice President of Strategic Marketing, EF Education; **Ruth Bramson** Senior Vice President of Human Resources, National Grid; **Joe Capuano**, Deputy Chief of Staff Executive office of Housing and Economic Development; **Arleen Damon** Workforce Project Specialist Executive Office of Labor and Workforce Development; **Carol Donahue**, Director of Learning, FableVision; **Kathy Ennis**, MA Liaison, Primary Source; **Charles Fadel**, Global Education Lead, Cisco Systems; **Jim Flanagan**, Director of State Leadership Initiatives, Partnership for 21st Century Skills; **George Guild**, Director of Economic Education, The Federal Reserve Bank Boston; **Representative Pat Haddad**, House Chair, Joint Committee on Education; **William Hart**, Assistant Superintendent, Pentucket Regional School District; **Jennifer James**, Undersecretary for Workforce Development; Executive Office of Labor and Workforce Development; **Sandy Kelly**, President, Mass School Libraries Association; **Representative Kay Khan**; **Kathy Lowe**, Executive Director, Mass School Libraries Association; **Barbara McGann**, Superintendent, Marlborough Public Schools; **Betsy McIntyre**, Deputy Director, Metro South West Regional Employment Board; **Chris Moore**, Co-Founder and VP, Human Capital Education Corporation; **Eric Nakajima**, Senior Policy Advisor, Executive Office of Housing and Economic Development; **Linda Noonan**, Executive Director, Massachusetts Business Alliance for Education; **Michele Norman**, Director of Policy, Office of the Governor's Special Advisor for Education; **Elizabeth Pauley**, Senior Program Officer, The Boston Foundation; **Stafford Peat**, Secondary Education Services, MA Department of Education; **Rob Richardson**, East Coast Education Manager, Intel Massachusetts; **Pat Schettini**, Superintendent, Reading Public Schools; **Kathie Skinner**, Director, Center for Educational Quality & Professional Development Massachusetts Teachers Association; **Nancy Snyder**, President and CEO, Commonwealth Corporation; **Neil Sullivan**, Executive Director, Boston Private Industry Council; **Keith Westrich**, Secondary Education Services, MA Department of Education; **Christine Williams**, Policy Advisor, Executive office of Housing and Economic Development.